

Analytical Report for

Total Environmental Concepts - Springfield

Certificate of Analysis No.: 16081213

Project Manager: Tyler Warren
Project Name : WRAMC Bldg 15
Project Location: NW, DC
Project ID : 1582.8



August 19, 2016
Phase Separation Science, Inc.
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PHASE SEPARATION SCIENCE, INC.



August 19, 2016

Tyler Warren

Total Environmental Concepts - Springfield

7432 Alban Station Blvd, #B252

Springfield, VA 22150

Reference: PSS Work Order(s) No: **16081213**

Project Name: WRAMC Bldg 15

Project Location: NW, DC

Project ID.: 1582.8

Dear Tyler Warren :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16081213**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on September 16, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Laboratory Manager



Sample Summary

Client Name: Total Environmental Concepts - Springfield
Project Name: WRAMC Bldg 15

Work Order Number(s): 16081213

Project ID: 1582.8

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/12/2016 at 12:45 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16081213-001	S-1-2.5'	SOIL	08/11/16 12:15
16081213-002	S-1-4'	SOIL	08/11/16 12:30
16081213-003	S-2-2.5'	SOIL	08/11/16 13:15
16081213-004	S-2-4'	SOIL	08/11/16 13:35

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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CERTIFICATE OF ANALYSIS

No: 16081213

Total Environmental Concepts - Springfield, Springfield, VA

August 19, 2016

Project Name: WRAMC Bldg 15

Project Location: NW, DC

Project ID: 1582.8

Sample ID: S-1-2.5'	Date/Time Sampled: 08/11/2016 12:15	PSS Sample ID: 16081213-001
Matrix: SOIL	Date/Time Received: 08/12/2016 12:45	% Solids: 85

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: SW3550C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1221	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1232	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1242	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1248	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1254	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029
PCB-1260	ND	mg/kg	0.057		1	08/12/16	08/15/16 10:53	1029

Sample ID: S-1-4'	Date/Time Sampled: 08/11/2016 12:30	PSS Sample ID: 16081213-002
Matrix: SOIL	Date/Time Received: 08/12/2016 12:45	% Solids: 83

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: SW3550C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1221	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1232	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1242	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1248	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1254	ND	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029
PCB-1260	0.064	mg/kg	0.062		1	08/12/16	08/15/16 11:22	1029

Sample ID: S-2-2.5'	Date/Time Sampled: 08/11/2016 13:15	PSS Sample ID: 16081213-003
Matrix: SOIL	Date/Time Received: 08/12/2016 12:45	% Solids: 86

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: SW3550C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1221	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1232	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1242	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1248	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1254	ND	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029
PCB-1260	0.42	mg/kg	0.057		1	08/12/16	08/15/16 11:51	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16081213

Total Environmental Concepts - Springfield, Springfield, VA

August 19, 2016

Project Name: WRAMC Bldg 15

Project Location: NW, DC

Project ID: 1582.8

Sample ID: S-2-4'	Date/Time Sampled: 08/11/2016 13:35	PSS Sample ID: 16081213-004
Matrix: SOIL	Date/Time Received: 08/12/2016 12:45	% Solids: 84

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: SW3550C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1221	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1232	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1242	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1248	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1254	ND	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029
PCB-1260	0.67	mg/kg	0.058		1	08/12/16	08/15/16 13:18	1029



Case Narrative Summary

Client Name: Total Environmental Concepts - Springfield

Project Name: WRAMC Bldg 15

Work Order Number(s): 16081213

Project ID: 1582.8

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Sample(s) received at a temperature greater than 6 degrees C and ice was present.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.



Analytical Data Package Information Summary

Work Order(s): 16081213

Report Prepared For: Total Environmental Concepts - Springfield, S

Project Name: WRAMC Bldg 15

Project Manager: Tyler Warren

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
ASTM D2216 05	S-1-2.5'	Initial	16081213-001	1041	S	134920	134920	08/11/2016	08/12/2016 15:45	08/12/2016 15:45
	S-1-4'	Initial	16081213-002	1041	S	134920	134920	08/11/2016	08/12/2016 15:45	08/12/2016 15:45
	S-2-2.5'	Initial	16081213-003	1041	S	134920	134920	08/11/2016	08/12/2016 15:45	08/12/2016 15:45
	S-2-4'	Initial	16081213-004	1041	S	134920	134920	08/11/2016	08/12/2016 15:45	08/12/2016 15:45
SW-846 8082 A	S-1-2.5'	Initial	16081213-001	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 10:53
	S-1-4'	Initial	16081213-002	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 11:22
	S-2-2.5'	Initial	16081213-003	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 11:51
	S-2-4'	Initial	16081213-004	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 13:18
	62104-1-BKS	BKS	62104-1-BKS	1029	S	62104	134993	-----	08/12/2016 15:09	08/15/2016 09:55
	62104-1-BLK	BLK	62104-1-BLK	1029	S	62104	134993	-----	08/12/2016 15:09	08/15/2016 09:25
	62104-1-BSD	BSD	62104-1-BSD	1029	S	62104	134993	-----	08/12/2016 15:09	08/15/2016 10:24
	153190091 S	MS	16081204-001 S	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 10:53
	153190091 SD	MSD	16081204-001 SD	1029	S	62104	134993	08/11/2016	08/12/2016 15:09	08/15/2016 11:22

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QC Summary 16081213

Total Environmental Concepts - Springfield WRAMC Bldg 15

Analytical Method: SW-846 8082 A

Seq Number: 134993

PSS Sample ID: 16081213-001

Matrix: Soil

Prep Method: SW3550C

Date Prep: 08/12/2016

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	68		61-150	%	08/15/16 10:53
Tetrachloro-m-xylene	54		42-142	%	08/15/16 10:53

Analytical Method: SW-846 8082 A

Seq Number: 134993

PSS Sample ID: 16081213-002

Matrix: Soil

Prep Method: SW3550C

Date Prep: 08/12/2016

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	72		61-150	%	08/15/16 11:22
Tetrachloro-m-xylene	60		42-142	%	08/15/16 11:22

Analytical Method: SW-846 8082 A

Seq Number: 134993

PSS Sample ID: 16081213-003

Matrix: Soil

Prep Method: SW3550C

Date Prep: 08/12/2016

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	71		61-150	%	08/15/16 11:51
Tetrachloro-m-xylene	63		42-142	%	08/15/16 11:51

Analytical Method: SW-846 8082 A

Seq Number: 134993

PSS Sample ID: 16081213-004

Matrix: Soil

Prep Method: SW3550C

Date Prep: 08/12/2016

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	77		61-150	%	08/15/16 13:18
Tetrachloro-m-xylene	66		42-142	%	08/15/16 13:18

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H= Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16081213

Total Environmental Concepts - Springfield WRAMC Bldg 15

Analytical Method: SW-846 8082 A

Seq Number: 134993

Matrix: Solid

Prep Method: SW3550C

Date Prep: 08/12/16

MB Sample Id: 62104-1-BLK

LCS Sample Id: 62104-1-BKS

LCSD Sample Id: 62104-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.04840	0.4840	0.3272	68	0.3601	73	60-110	10	25	mg/kg	08/15/16 09:55	
PCB-1260	<0.04840	0.4840	0.4032	83	0.4310	88	60-98	7	25	mg/kg	08/15/16 09:55	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	73		84		89		61-150	%	08/15/16 09:55
Tetrachloro-m-xylene	71		77		84		42-142	%	08/15/16 09:55

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H = Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits



SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

www.phaseonline.com
email: info@phaseonline.com

PHASE SEPARATION SCIENCE, INC.

1 *CLIENT: Total Environmental		*OFFICE LOC: Springfield		PSS Work Order #: 1608 1213		PAGE 1 OF 1	
*PROJECT MGR: Tyler Warren		*PHONE NO.: (540) 405 2341		Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe			
EMAIL: TWarren@TETI.PS		PROJ FAX NO.: ()		Preservatives Used: <u>NA</u>			
*PROJECT NAME: WRAMC Bldg 15		PROJECT NO.: 1582.9		Analysis/Method Required: <u>③</u>			
SITE LOCATION: NW, DC		P.O. NO.: 27937		*SAMPLE TYPE: C=COMP G=GRAB			
SAMPLER(S): TW		DW CERT NO.:		No. CONTAINERS			
2	LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	REMARKS	
		S-1-2.5'	8/11	12:15	S	X	
		S-1-4'	8/11	12:30	S	X	
		S-2-2.5'	8/11	13:15	S	X	
		S-2-4'	8/11	13:35	S	X	
4 *Requested TAT (One TAT per COC)							# of Coolers: 1
<input checked="" type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Other							Custody Seal: ABS
Data Deliverables Required: COA QC SUMM CLP LIKE <input type="checkbox"/> OTHER <input type="checkbox"/>							Ice Present: PRES Temp: 8°C
Special Instructions:							Shipping Carrier: FedEx
DW COMPLIANCE? YES <input type="checkbox"/>							STATE RESULTS REPORTED TO: MD <input type="checkbox"/> DE <input type="checkbox"/> PA <input type="checkbox"/> VA <input type="checkbox"/> WV <input type="checkbox"/> OTHER <input type="checkbox"/>
5 Relinquished By: (1)		Date	Time	Received By:			
Tyler Warren		8/12/16	0830	John Agnew			
Relinquished By: (2)		Date	Time	Received By:			
John Agnew		08-12-16	9:30	Gara			
Relinquished By: (3)		Date	Time	Received By:			
Gara		8/12/16	1245	[Signature]			
Relinquished By: (4)		Date	Time	Received By:			

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED



Phase Separation Science, Inc

Sample Receipt Checklist

Work Order # 16081213 **Received By** Thomas Wingate
Client Name Total Environmental Concepts - Sprin **Date Received** 08/12/2016 12:45:00 PM
Project Name WRAMC Bldg 15 **Delivered By** Trans Time Express
Project Number 1582.8 **Tracking No** Not Applicable
Disposal Date 09/16/2016 **Logged In By** Rachel Davis
Shipping Container(s)
No. of Coolers 1

Custody Seal(s) Intact? N/A Ice Present
Seal(s) Signed / Dated? N/A Temp (deg C) 8
Temp Blank Present No

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name TW
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Total No. of Samples Received 4

Total No. of Containers Received 4

Preservation

Total Metals (pH<2) N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A
Do VOA vials have zero headspace? N/A
624 VOC (Rcvd at least one unpreserved VOA vial) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Sample(s) received at a temperature greater than 6 degrees C and ice was present.

Samples Inspected/Checklist Completed By:

Rachel Davis

Rachel Davis

Date: 08/12/2016

PM Review and Approval:

Amber Confer

Amber Confer

Date: 08/12/2016